

AMENDMENTS TO THE SPECIFICATION

Page 1, the third and fourth full paragraphs are amended to read:

In particular, the invention concerns a method for manufacturing visual communication panels of the type which mainly consists of a support or core which is provided at least on the reveal of the presentation panel with a ~~coating~~ skin in the shape of a layer of enamelled metal, in particular a thin metal layer which is provided on minimally one side with minimally one cover layer of porcelain or vitreous enamel or glaze.

Usually, with such known visual communication panels, also the back side is provided with a skin ~~coating~~, either or not of a different nature than the skin ~~coating~~ on the reveal, which is to prevent any warping of the panel.

Page 2, the first full paragraph is amended to read:

As is known, such visual communication panels have been manufactured according to a discontinuous method until now, whereby these panels are made one piece after the other on the basis of a support in the form of a plate with finite dimensions, and of one or two pieces of skin ~~coating~~ with corresponding dimensions provided on the support in the form of a plate, and fixed onto it by means of gluing or the like.

Page 2, the third full paragraph is amended to read:

The present invention aims to remedy these and other disadvantages in that it provides for a method which makes it possible to manufacture visual communication panels in a continuous production line, whereby a continuous panel is obtained comprising a support provided on at least one side with a skin ~~coating~~ of porcelain or vitreous enamelled metal as mentioned above and whereby individual visual communication panels with the required dimensions can be made from said continuous panel by means of sawing or the like.

Page 2, the paragraph spanning pages 2 and 3 is amended to read:

To this end, the invention concerns a method for manufacturing visual

communication panels comprising applying a continuous skin ~~coating~~ layer of enamelled metal on at least one side of a continuous support in the form of a plate; in applying a layer of glue between the support and a skin ~~coating~~ layer; in pressing the skin ~~coating~~ layer on the support in order to form a continuous panel with the required thickness; and finally, if necessary, in sawing the obtained continuous panel into individual panels with the required dimensions.

Page 3, the first, second, third and fourth full paragraphs are amended to read:

The continuous support is preferably provided on both sides with a continuous skin ~~coating~~ layer of which at least one skin ~~coating~~ layer is formed of enamelled metal.

An advantage of the method according to the invention is that, since a continuous support and a continuous skin ~~coating~~ layer or layers are taken as a basis, it becomes possible to manufacture visual communication panels according to a continuous labour-saving production process, characterised by a relatively high production rate and relatively low production costs.

Preferably, in order to press on the skin ~~coating~~ layer or layers, the above-mentioned support is synchronously led through a laminating device together with the skin ~~coating~~ layer or layers, whereby the continuous skin ~~coating~~ layer or layers are each unwound from a roll and are preferably heated so as to obtain, improve or accelerate the gluing.

The above-mentioned layer of glue can be formed of a cold glue or a hot glue whereby, in the latter case, the layer of glue is first melted by heating in the laminating device, after which the layer of glue is congealed again by cooling it down in order to provide for a bond between the support and the skin ~~coating~~ layer or layers.

Page 4, the first and second full paragraphs are amended to read:

The above-mentioned layer of glue can also be formed of a heat-activated activatable adhesion film, whereby this dry adhesive film becomes sticky or liquid under the influence of the temperature and/or under the influence of temperature and pressure.

The above-mentioned layer of glue can also be formed of various types of cold glue, amongst other ~~what are called~~ contact adhesives, which provide for a bond thanks

to the evaporation of organic solvents; of a water-based adhesive dispersion, such as for example polyvinyl acetate glue, which provides for a bond thanks to the evaporation of water; of a single-part or two-part liquid polyurethane adhesive or of an epoxy adhesive which provides for a bond as the liquid glue cures.

Page 5, the first and second paragraphs are amended to read:

The above-mentioned layer of glue can for example be applied by means of spraying, curtain coating, roller coating, silkscreen printing, stencilling, powdering or scattering, by means of extrusion or co-extrusion, or it can also be applied in the shape of an adhesive film which is unwound from a roller and which is led through the above-mentioned laminating device together with the support and the skin ~~coating~~ layer or layers concerned.

The invention also concerns a device for manufacturing visual communication panels according to the above-described method, whereby this device mainly consists of a transport table for a continuous support; at least one roll of a continuous skin ~~coating~~ layer formed of a continuous layer of enamelled metal; a laminating device through which the above-mentioned support and the skin ~~coating~~ layer are led; means to apply a layer of glue between the support and the skin ~~coating~~ layer; and possibly a sawing device, downstream of the laminating device.

Page 6, the last paragraph is amended to read:

On either side of the table 1 are provided two bearing cushions 9, opposite to one another, in which is suspended a roll 10 of a skin ~~coating~~ layer 11 of enamelled metal by means of a shaft 12 that can be freely rotated, whereby the roll 10 is situated above the table 1 and has a width which is equal or almost equal to that of the support 2.

Page 7, the first, second, third and fourth paragraphs are amended to read:

As is represented in greater detail in figure 2, the skin ~~coating~~ layer 11 of enamelled metal is formed of one or several thin metal layers 13 upon which may be applied an enamelled first adhesive layer, but at least an enamelled cover layer 14 which, as is known, is obtained by melting a layer of enamel provided on the metal layer

13 as a liquid dispersion or in a powdered form, which is heated to a temperature above 500°C.

Depending on the required type of application, skin ~~coating~~ layers 11 can be applied with an adapted porcelain or vitreous enamel cover layer. Thus, porcelain or vitreous skin ~~coating~~ layers are known which can be written on with felt-tip pens or which have the characteristics of a chalk board or which, by adding special pigments to the enamel, are suitable as a base for projections or the like.

In between the above-mentioned roll 10 and the inlet 15 of the laminating device 3 are provided means 16 to heat the skin ~~coating~~ layer 11, whereby these means 16 consist for example of infrared radiators or the like which are directed onto the skin ~~coating~~ layer 11.

Upstream of the laminating device 3 are provided means 17 which make it possible to provide a layer of glue between the above-mentioned support 2 and the skin ~~coating~~ layer 11, whereby these means 17 in this case consist of a roll 18 of adhesive film 19 provided at a distance above the table 1 on a shaft 20 which is suspended in a freely rotating manner in bearings 21, whereby this roll 18 extends in the width of the table 1 and whereby the adhesive film 19 has the same, or practically the same width as the skin ~~coating~~ layer 11.

Page 8, the first full paragraph is amended to read:

As an adhesive film 19 can for example be applied a double-sided adhesive tape or, ~~as in the given example,~~ a film made of a hot glue which melts when heated and which cures again when cooled to a normal ambient temperature, or ~~[[a]] as in the given example~~ temperature-activated activatable adhesive film which gets sticky or melts when being heated and possibly when being pressed on, and which will subsequently adhere doing cooling ~~while being cooled~~.

Page 8, the fourth full paragraph is amended to read:

In order to form visual communication panels 25, a continuous support 2 in the form of a plate is fed onto the table 1 and this support 2, together with the skin ~~coating~~ layer 11 and the adhesive film 19, is led between the table 1 and the endless belt 4 of the laminating device 3 at the inlet 15 of the laminating device 3.

Page 8, the last paragraph spanning pages 8 and 9 is amended to read:

By driving the endless belt 4 in the direction of arrow P in figure 1, the support 2, the skin ~~coating~~ layer 11 and the adhesive film 19 are moved together in a synchronous manner through the laminating device, whereby both the skin ~~coating~~ layer 11 and the adhesive film 19 are unwound from their respective rolls 10 and 18.

Page 9, the first and second paragraphs are amended to read:

During this passage, the adhesive film 19 is activated by the heat of the heating elements 6 and by the pressure of the belt and thus is obtained a gluing 26 between the support 2 and the skin ~~coating~~ layer 11, after which the support 2 and the skin ~~coating~~ layer 11 are pressed together by the press-on rollers 7 to the required thickness of the ultimate visual communication panels 25, after which, thanks to the cooling elements 8, the layer of glue 26 cools again and forms a strong bond between the support 2 and the skin ~~coating~~ layer 11 of enamelled metal, such that, at the exit of the laminating device 3, a continuous panel is formed of which can be sawn pieces having the required dimensions to form the required visual communication panels 25

Thanks to the infrared radiators 16, the skin ~~coating~~ layer 11 is heated when entering the laminating device 2, as a result of which the skin ~~coating~~ layer 11 in the laminating device 3 has to be heated less abruptly or not at all to activate the adhesive film 19.

Page 10, the third, fourth and fifth paragraphs are amended to read:

A roll 27 with a second skin ~~coating~~ layer 28 and a roll 29 with a second adhesive film 30 are provided under the table 1.

In this case, thanks to a synchronous movement of the two belts 4, the support 2 is moved through the laminating device 3 together with the two skin ~~coating~~ layers 11-28 and the two adhesive films 19-30, so that, in the same manner as described above, the skin ~~coating~~ layers 11-28 are glued on the support 2, so that, at the exit of the laminating device 3, is created a continuous sandwich panel whose presentation panels 25 can be sawn to the required dimensions.

The second skin ~~coating~~ layer 28 for coating the back side of the visual

communication panels 25 may be a skin coating layer of porcelain or vitreous enamelled metal, but it can also be formed of other materials, such as galvanised steel, aluminised steel, lacquered steel, aluminium, melamine or other synthetic materials, foil reinforced with glass fibre, paper, cardboard, cork or the like.

Page 11, the first paragraph is amended to read:

If necessary, the laminating device 3 can be replaced by a rolling device with rolls which may be either or not heated or by a flat belt laminator with lamellae.

Page 11, the fourth paragraph is amended to read:

The above-mentioned means 17 for applying a layer of glue 26 between the support 2 and the skin coating layers 11-28 in this case consist of two extruding applications 39 for glue, erected above and under the surface of the table 1 at the inlet 15 of the laminating device 3.

Page 11, the last paragraph spanning pages 11 and 12 is amended to read:

In order to form the support 2, the extruder press 32 is fed with for example granules 40 of thermoplastic polypropylene enriched with talc which is extruded to a synthetic foil 41, after which semi-hexagonal cells are formed in said synthetic foil 41 by means of the moulding press 33, which are connected to each other and which, during their passage in the folding installation 36, are folded together so as to form cells of a honeycomb structure which is led through the laminating device 38 to finally form a support 2 which, after the application of an extruded temperature activatable adhesive film ~~layer of glue 26~~ on the bottom and top side of the support 2, obtained from hot adhesive granules 43, is led through the laminating device 3 together with the skin coating layers 11-30 so as to form the required visual communication panels 25.

Page 12, the third and fourth paragraphs are amended to read:

In the case of a support made of foamed polyurethane, it is clear that the polyurethane itself forms an adhesive which adheres to the skin coating layers 11-28 when it cures, without an extra layer of glue having to be provided. In this case, it is for example possible to make use of a double-belt laminating machine to provide the

continuously formed communication panel with the required thickness.

Although figure 4 represents two separate laminating devices 3 and 31, it is not excluded that only a single laminating device is applied which is used to laminate the support 2 itself, as well as to laminate the skin coating layers 11 and 28 on the support 2.

Page 13, the first and second paragraphs are amended to read:

The device according to figure 5 differs from the device in figure 4 in that the means 17 for applying a layer of glue in this case consist of two applicators 44 which spread liquid or powdered glue 45 directly on the skin coating layers and/or on the support 2.

To this end, use can be made for example of various types of cold glue, what are called contact adhesives, which provide for a bond thanks to the evaporation of organic solvents; of a water-based glue dispersion, such as for example polyvinyl acetate glue, which provides for a bond thanks to the evaporation of water; of a single-part or two-part liquid polyurethane adhesive ("~~1C or 2C PU~~ one or two component adhesive") or of an epoxy adhesive which provides for a bond as the liquid glue cures.

Page 13, the last paragraph spanning pages 13 and 14 is amended to read:

Figure 6 represents another variant, whereby gluing components have already been integrated in the granules 40 for the extrusion of the synthetic foil 41 in this case, such that these components are found in the material of the support 2 itself and glue the honeycomb cells of the support 2 and of the skin coating layers 11-28 on the support 2 during their passage through the laminating devices 3-38.